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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,175

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EXAMINER

MAKI, STEVEN D

ART UNIT

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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,175	Applicant(s) NAGAI, SYU	
	Examiner Steven D. Maki	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>060905</u> . | 6) <input type="checkbox"/> Other: ____. |

1) Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2) The disclosure is objected to because of the following informalities:

First: The specification refers to the claims. The reference to the claims should be appropriately deleted.

Second: On line 3 of page 6, " $W_a < W_b$ " should be -- $W_a > W_b$ -- to correct an obvious error. See lines 4-6 of page 6, which describe the tread width on the lower negative side being narrower. See lines 27-30 of page 8, which recites " W_a being larger than W_b ". See Figure 4 which shows $T_{in} > T_{out}$ and Figure 6 which recites " $T_{in}(W_a)$ " and " $T_{out}(W_b)$ ".

Appropriate correction is required.

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

When read in light of whole disclosure, it is readily apparent that the description of "Wa < Wb" in claim 12 is a typographical error which should be corrected to --Wa > Wb--. See lines 4-6 of page 6, which describe the tread width on the lower negative side being narrower. See lines 27-30 of page 8, which recites "Wa being larger than Wb". See Figure 4 which shows $T_{in} > T_{out}$ and Figure 6 which recites " $T_{in}(W_a)$ " and " $T_{out}(W_b)$ ".

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7) **Claims 1, 3, 8, 9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 407 (JP 07-223407).**

Japan 407 discloses a pneumatic tire comprising a carcass, belt 8, belt reinforcing layer 9, shoulder part reinforcing layers 10 and a tread comprising grooves wherein the right side (inside) of the tread has a larger negative ratio (e.g. 42%) than the negative ratio (e.g. 34%) of the left side (outside) of the tread. The tire has a size such as 235/45R17. Japan 407 teaches shifting the center of the belt to the right side of

the tread which has the larger negative ratio to reduce conicity so as to improve straight steering stability. See abstract, figures 1, 2 and paragraphs 10 and 11.

Claims 1, 3, 8, 9 and 12 are anticipated by Japan 407. Since the belt is shifted to the right side of the tread which has a larger negative ratio, the belt width Ba on the higher negative ratio side is greater than the belt width Bb on the lower negative ratio side as set forth in claim 1. As to claim 3, Japan 407 teaches a negative ratio difference of 8%. As to claims 8 and 9, note shoulder part reinforcing layers 10. In claim 12, the claimed widths Wa and Wb are inherent in Japan 407's tire having the disclosed asymmetrically positioned belt.

8) Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407.

Japan 407 is discussed above. As to claim 2, it would have been obvious to one of ordinary skill in the art to shift Japan 407's belt such that width Ba (inside / higher negative ratio) = 104-120% of width Bb (outside / lower negative ratio) since Japan 407 teaches shifting the center of the belt to the right side of the tread which has the larger negative ratio to reduce conicity so as to improve straight steering stability. The optimum shift of the belt, and consequently the size of the belt on both sides of the equatorial plane, would have been obvious and could have been determined without undue experimentation in light of Japan 407's teaching to shift the center of the belt so as to improve straight steering stability. As to claims 4 and 5, it would have been obvious to one of ordinary skill in the art to provide the inside shoulder section with a radius Ra greater than the radius Rb of the outside shoulder section as claimed since it

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is taken as well known / conventional per se to form round shoulders for a tire having an asymmetric tread such that the radius of curvature of one shoulder is greater than the radius of curvature of the other shoulder.

9) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 in view of Matsumoto (US 2002/0100526) and Baumhofer et al (US 6,439,286).

Japan 407 is discussed above. As to claims 6 and 7, it would have been obvious to one of ordinary skill in the art to provide Japan 407's tread such that pitch P_a of widthwise grooves at the inside half of the tread is 1.5-2 times pitch P_b of widthwise grooves at the outside half of the tread since Matsumoto and Baumhofer et al, also directed to an asymmetrical tread, suggests using a larger spacing of lateral grooves for the inside half of a tread compared with the spacing of lateral grooves for the outside half of the tread. Matsumoto teaches that circumferentially long blocks 5a (delimited by the lateral grooves having the above noted larger spacing) and the circumferentially shorter blocks 5b provide the inside of the tread with higher rigidity in the circumferential direction and the outside of the tread with higher rigidity in the axial direction to improve over turning performance. Baumhofer et al's asymmetrical tread pattern is generally similar to that of the asymmetrical tread pattern shown in figure 1 of Japan 407. In Baumhofer et al, the lateral grooves with the larger spacing at the inside of the tread are lateral grooves 11.

10) Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 in view of Japan 511 (JP 2002-225511).

Japan 407 is discussed above. As to claim 10, it would have been obvious to one of ordinary skill in the art to provide the shoulder belt layer 10 at the outside shoulder of Japan 407's tire with cord of a higher tensile rigidity than that for the inside shoulder belt layer 10 since Japan 511 shows forming side belt layers 18u, 18s for the shoulders of an asymmetric tread of a tire having riding comfort, steering stability and anti-wear performance such that the belt layer 18s at the lower negative ratio outside half of the tread is wider than the belt layer 18u at the higher negative ratio inside half. One of ordinary skill in the art would have readily appreciated that the wider belt layer 18s is for improving rigidity at that location. Since it is well known in the tire art per se to improve rigidity of belt layer using higher tensile rigidity cord, one of ordinary skill in the art would have found it obvious to implement Japan 511's teaching to improve rigidity at the outside shoulder of the tire by using higher rigidity cord in the belt layer 10 at the outside of Japan 407's tread.

11) Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 in view of Mezzanotte (US 4,848,429) and Japan 105 (JP 62-059105).

Japan 407 is discussed above. As to claim 11, it would have been obvious to one of ordinary skill in the art to provide the inside half of Japan 407's tread (the side with the higher negative ratio) with a higher modulus and lower tan delta than the outside half of the tread since (1) Mezzanotte, also directed to an asymmetric tread pattern having a higher negative ratio on the inside half of the tread, suggests providing the inside half of the tread with a high rebound (low tan delta) and the outside region of the tread with a low rebound (high tan delta) to improve grip on snow / frozen terrain

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and road holding on dry and wet roads and (2) Japan 105 suggests forming one ground contacting side of the side of a tread with a higher storage modulus rubber to reduce abrasion (abstract, e.g. figure 8).

12) Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 in view of Mezzanotte (US 4,848,429).

Japan 407 is discussed above. As to claim 13, it would have been obvious to one of ordinary skill in the art to provide the inside half of the tread (the higher negative ratio side) with the thicker skid base gauge since Mezzanotte, also directed to an asymmetric tread pattern having a higher negative ratio on the inside of the tread, suggests providing the inside half of the tread with a thicker tread (figure 1) so that the thickness of tread with high hysteretic loss for good road holding on dry and wet roads can be minimized.

Remarks

13) The remaining references are of interest.

15) No claim is allowed.

14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
February 19, 2008